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"Speed up"! The Influences of the Hidden Curriculum on the Professional Identity Development of Medical Students

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Abstract

Purpose: To map and understand the influences of the hidden curriculum on the professional identity development of medical students based on the socialization process as proposed by Cruess et al. in a South American medical school.

Method: Between 2014 and 2016, the authors performed 13 focus groups interviews with a total of 102 final-year medical students in Brazil and analyzed the data using thematic template analysis.

Results: The authors identified three domains through which the hidden curriculum influences professional identity formation: (1) Speeding up - Repetition without reflection ends in a lack of awareness of professional identity formation; (2) Emotional dissonance in the context of negative role modeling; and (3) the conflict between personal and professional life.

Discussion: As teachers "Speed up" the clinical encounters, acting as negative role models, students internalized behaviors without reflecting on their attitudes, which culminates in a state of dissonance between the physician they wanted to be and the professionals they actually are, triggering feelings of shame and guilt. Without feeling the rewards that a meaningful practice can provide, students struggled with the idea of sacrificing themselves to become physicians. Physicians/teachers who did not have a meaningful relationship with their profession, who did not cultivate the values and virtues of good medicine and did not found joy in being a physician were not able to nurture meaning and fulfillment in their students. The concepts of socialization and professional identity formation fit the purpose of grounding the local understanding of the several components of the hidden curriculum. The authors believe that this map can be used as a guide to design targeted pedagogical activities.

Keywords: Emotional dissonance; Hidden curriculum; Professional identity

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1. Introduction

Despite all efforts to include professionalism education in the medical curriculum, there is still doubt as to whether undergraduate students are effectively incorporating the values and virtues of the medical profession.[1] Unplanned negative influences bewitch medical students to adopt unethical behaviors that hamper their commitment to altruism and beneficence, preventing them from creating a meaningful relationship with their future profession.[2,3] The so-called hidden curriculum has many masks, resting on the faces of different social actors, whose interactions with students commonly go unnoticed by curricular designers and course coordinators.[1,3,4] The ulterior nature of the hidden curriculum defies medical educators to develop effective pedagogical strategies to support students' professional identity development, especially when dealing with negative experiences.[5] We believe that decoding the local characteristics of the hidden curriculum is crucial to nurturing medical students' professionalism. In this article, we explore whether the Cruess et al.' conceptual framework of medical students' socialization and professional identity development could ground the understanding of the local elements of the hidden curriculum which are threatening the professional identity of medical students in a South American medical school.[6] (Box 1).

Recently, the focus of professionalism teaching started shifting from a behavioral perspective to a developmental perspective focusing on identity development.[7–9] Medical educators now agree that pedagogical approaches on professionalism should address the full complexities of becoming or being a physician, instead of only assessing students' behaviors, which often are repeated and reproduced in stereotypical and meaningless ways.[7] Doing justice to these complexities when thinking about ways to devise effective strategies to teach and evaluate professionalism of students and residents can be considered one of the greatest challenges for educators of the next generation of health professionals.[7,10]

The concept of professional identity presents an opportunity to mind and fill the gap on professionalism education.[9,11] Medical identity development takes place within a social context by the internalization of the characteristics, values, and norms of the profession during students' socialization in communities of practice.[12] Gradually, students stop being members of the lay public and become members of a professional group with specific competencies, skills, and attitudes.[2,11] In a comprehensive framework, Cruess et al. mapped the several social interactions that potentially mold medical students' professional identity.[6] The scope of the framework includes the influences of the institutional culture, role models, health care system, as well as the interactions with patients, peers and health professionals.[6] Understanding these complex dynamics influencing medical students' social and academic lives is crucial to develop pedagogical interventions to scaffold their professional development.[3]

Such pedagogical strategies should clearly target identity development, providing and protecting time for students to reflect on the ongoing process of negotiation between "what they are" and "what they want to become".[13,14] Ideally, this process should start early in the undergraduate curriculum and continue during medical residency programs. This longitudinal approach is essential to allow students to reflect on and contextualize their educational, clinical, and personal experiences.[11,15] The targeted final result of this process is the consolidation of a professional identity congruent with the social contract of medicine, which goes beyond behavioral rules, more related to who one is, than to what one does.[16]

BOX 1
– *"Speeding Up":*

***MACF**: "When I was a little boy, I used to help my grandfather to guide the cattle from one pasture to another. I was always amazed! How large animals, much stronger than an eight years old boy could respond so precisely with a small contact of the stick on their ears." - The Brazilian Portuguese verb "tocar" has different translations; in our interviews, the meaning was "to touch," or "to conduct" the herd upon hitting (with a stick or whip). Medical students in Brazil use the word as slang, meaning they have to work fast, seeing many patients in a row, which is often detrimental to the quality of care. In this paper, to facilitate the understanding of the reader, we translated "to touch the work" as "speeding up."*

However, the formation of a professional identity is subject to a series of unplanned influences called the hidden curriculum.[17–19] Although the hidden curriculum is a broad term, with different interpretations, it is worldwide used as a social concept that captures all the dimensions of medical students' experiences that are not under the governance of the formal curriculum.[12,20] Influences opposed to what has been planned may arise from these informal experiences, feeding a state of dissonance and emotional discomfort in students that may impact negatively on their future professional identity.[3] Several authors have collaborated to understand and map the influences of the hidden curriculum in medical education, for instance, stressing the issues of negative role modeling and the impact of the organizational culture on students' dignity.[21] Although, there are several studies investigating the influences of the hidden curriculum on medical students, few of those were explicitly set up to understand its impact on professional identity development.

This study aimed to improve the understanding of the influence of the hidden curriculum on the development of medical students' professional identity. We hypothesized that Cruess' framework offers a solid foundation to explore the effects of the hidden curriculum in any medical school when detailing the complex interactions that sum up to guide or misguide medical students' professional development. Such belief rests on the idea that medical students are particularly vulnerable during the socialization process because they behave under the need of being recognized as doctors. They wait for this recognition to come from senior students, assistant doctors, health professionals, clinical teachers, patients, family, and friends; people who are continually modeling, molding, or demanding for specific behaviors; behaviors of a physician.

Therefore, our objective was to understand how the socialization of medical students mainly in their clinical years affects their professional identity formation. Our research questions were: 1 - How does the hidden curriculum affect the socialization process of medical students regarding their professional identity formation? 2 - Are the concept of socialization and the professional identity framework proposed by Cruess et al. reliable tools to guide this process of understanding?

2. Method

2.1. Context

This study was carried out in one of the principal medical schools in Brazil and Latin America, where, in the first two years, students learn basic sciences, but are also involved in health services and have their first contacts with patients. In the two following years, they begin their clinical studies and intensify their direct contact with patients, especially in the fourth year, when they follow patients in a primary care setting for one year. The two final years of the 6-year program are hospital-based and dedicated to foster independent practice; students are responsible for treating patients in clinical wards and outpatient clinics of what are considered the main areas of medicine in Brazil: internal medicine, emergency medicine, surgery, pediatrics, and obstetrics-gynecology. Students participate in a longitudinal course on bioethics and professionalism along the six years, but the course does not directly address the formation of professional identity. For a global audience, it is important to realize that, in Brazil, students are allowed to practice medicine independently after completing their undergraduate studies. After the graduation, 40% of former medical students start working in primary care facilities and emergency departments without any formal supervision. One should not underestimate the pressure to learn as much as possible during a limited undergraduate course to become capable of practicing medicine in the context of a chaotic and unequal health care system.

2.2. Study design

Cruess et al. described the conceptual model of the socialization process that supports our study and provided sensitizing concepts for data collection and analysis.[6,22] We collected and analyzed data from focus groups composed of final-year medical students. We chose focus groups because the interaction with fellow students might help to articulate the more unconscious aspects of the social interactions while offering social support to overcome the initial fear of reporting unethical and stressful experiences. In our cultural context, group support is considered essential to building safe environments.

The principal author (GLS) conducted the research with 13 focus groups of 102 students within a period of 22 months between 2014 and 2016. Our sample purposefully grouped final-year medical students, who had already experienced the whole curriculum, since we believe that students while approaching the end of the program, are best suited for reflecting and pondering on the paths they followed along their educational process. Each focus group included 7 to 10 students and met for an average of 1 hour and 48 minutes. Group interviews were video recorded, transcribed and anonymized.

The authors were careful to decide on the optimal size of the sample. Our first concern was to include a diverse group of students, from different classes, with different social backgrounds, and academic trajectories. We intentionally recruited students from 3 different academic

years. The second concern was to foster discussion inside the focus groups, providing students the opportunity to share their experiences and join a dynamic dialogue towards meaning-making. To nurture the necessary trust and safety to allow the exchange of ideas, we recruited the groups that were already running for the academic/clinical rotations (n = 7–10), which means groups with students who spent the former two years working together.[23,24]

2.3. Creating a safe environment for participants

Reflecting on and sharing ideas about the institutional culture is a challenge in cultures marked by hierarchical relationships, as hospitals and medical schools. Students can feel the pressure and become uncomfortable to talk, which can hamper data collection. To avoid this pitfall, we decided to implement a strategy to help students in building trust towards the principal investigator, GLS.

GLS is a psychologist without any training responsibility regarding the students. During the research period, she participated in a simulation activity devoted to nurturing communication skills with the targeted group of students. This simulation activity has four encounters and is well-known by students in our institution as an opportunity to discuss the different aspects of current and future professional practice. MACF and MS are responsible for the activity and believe that its safe atmosphere relates to the debriefing session. In general, the debriefing is emotionally intense, lasts for 3–4 hours, and stands out for the openness to dialogue.[25,26] GLS participated in the debriefing sessions not to collect data, but to foster a sense of belonging, build trust and earn the respect of the students. Afterwards, GLS invited the same groups of students to participate in the research.

2.4. Interview guide

The interviews started with an introduction to the topic to ensure that both the concepts of "hidden curriculum" and "medical professional identity" had been equally defined. Hidden curriculum was defined as "the set of influences related to the implicit rules that medical students and young doctors have to follow to adapt to the customs, rituals, and attitudes, professional or not"[17]; "These influences are process, pressures, and constraints that fall out of the formal curriculum, and which are often unarticulated or unexplored".[27] Medical professional identity was defined as proposed by Cruess et al.: "A physicians' identity is a representation of self, achieved in stages over time during which the characteristics, values, and norms of the medical profession are internalized, resulting in an individual thinking, acting, and feeling like a physician."[6]

After this introduction, we asked this trigger question: "*How do you think experiences related to the so-called hidden curriculum affected the formation of your medical identity?*". During the interview, we explored the elements of the socialization process as described by Cruess et al. such as the influence of the role models (their values and virtues), the importance of institutional culture, the impacts of participation in the daily clinical activities, the interaction with peers, residents and health professionals, and the relevance of the learning climate.[6] We instigated participants to share and reflect on critical incidents that were particularly important to define who they are or will be as physicians. We also stimulated them to project themselves in the future to explore how those influences would mold their professional practice. As the interactions among the interviewers and the principal author were extremely lively and passionate, often cathartic, we choose to introduce the topics above spontaneously, allowing the conversation to flow without interrupting the participants.

Recruiting, data collection and analysis went on iteratively, allowing us to search for new participants and to improve the interview script with the aim of sounding out concepts and themes.[28] We discontinued sampling after 13 groups when we reached sufficiency, that is when no new data emerged to elicit additional theoretical insights.[29]

2.5. Data analysis

A professional transcription service transcribed the interviews *verbatim*, and the main author revised the transcriptions, removed all identification data before the analysis, recorded data in electronic media, and kept them in a secure password-protected file. The most meaningful parts of the transcriptions were translated into English by a professional translator to allow the collaboration with one of the authors (EH).

We used a template analysis approach using concepts from the Cruess' framework as a priori codes, to understand the influences of the hidden curriculum in the professional identity development of our medical students.[6,30] The a priori codes involved the following dimensions of the socialization process: clinical and non-clinical experiences; role models and mentors; health care system; learning environment; formal teaching and assessment; self-assessment; symbols and rituals; relationships with patients, peers, and health-professional team; and relationship with family and friends.[6]

Our research team included two psychologists, and four clinical teachers (internal medicine, elderly care medicine, and psychiatry). The different backgrounds

brought different lenses, and complementary views to data analysis, allowing us to deepen into the interviews while preserving the necessary reflexivity. The psychologists (GLS and LKSC), who are not teachers in our medical school, offered an outsider perspective. The clinical teachers from our institution (MACF, MS, and ET) contextualized students' experiences tracing the roots of some institutional characteristics amplifying our understanding of students' experience. Our external collaborator (EH) brought the international context and helped us to understand our singularities.

In our first step, the authors who are psychologists (GLS and LKSC) and do not occupy teaching positions in the medical program watched the videos together, to familiarize themselves with the data and explore if there were critical non-verbal cues that should not be missed in subsequent data collection and analysis.

The decision to use the videos was initially based on the difficulty of faithfully transcribing focus groups performed in the Brazilian setting, in which several people can talk at the same time. However, the videos also brought a complementary way of understanding the social interactions inside the group, and GLS and LKSC recurred to the videos every time they had concerns or doubts about the meanings behind and beyond the verbal interactions. GLS and LKSC also used the videos to feed the discussion about whether the interview methods were efficient to bring to light the target issues, meaning the relevant social interactions influencing professional identity development. This discussion followed every focus group, assuring the data collection was a dynamic process.

After the first four focus groups interviews, with 33 participants in total, were transcribed, MACF, an experienced professor of clinical medicine directly involved in medical professionalism education, joined GLS and LKSC in data analysis. The three authors independently performed an initial coding searching for influences regarding the elements of the socialization process as described by Cruess et al. GLS, LKSC, and MACF had consecutive meetings to elaborate on the initial coding aiming to develop an initial template.[6] The template guided the analysis of the subsequent data, but in a flexible way, allowing the researchers to add, combine, or exclude themes, always intending the best comprehension of medical students' socialization process. Every new transcription was analyzed by the three authors to refine the template. Different opinions about the meaning of specific passages were discussed until a consensus was reached.

Some of the dimensions previously described by Cruess et al. and others were not present in our data. For instance, formal assessments with grades were not mentioned by students as relevant for their professional identity development. However, students did value the subjective impressions and judgements of teachers about their work. This absence corroborates one of our hypotheses: local circumstances influence the preponderance and balance of the different dimensions of the socialization process. During the meetings, the authors developed six different templates.

Finally, the three authors agreed on the final template and revisited all the transcriptions to guarantee the coherence of the results. The final themes together with specific interviews' extracts were presented to ERT, MS, and EH, physicians involved in undergraduate and postgraduate medical education, to test the consistency of the findings. The collaboration of EH was crucial to contextualize the data from an international perspective. Also, as an "outsider," EH opened the researchers' eyes for some relevant aspects of the data; some elements of the socialization process had become so "mundane" and "ordinary" that local researchers failed on recognizing their importance. For instance, EH was crucial to trigger the understanding of the cardinal importance in our context of the "speeding up" culture, which materializes the pressure students feel to act more as health workers than as trainees.

2.6. Ethics

The research ethics committee of the School of Medical Sciences of Unicamp approved the study (CAAE: 43727315.4.0000.5404). We guaranteed confidentiality and anonymity to all participants who agreed on the use of the videos.

3. Results

The students interviewed were on average 24.6 years old, and 59% were women, reflecting the general epidemiology of medical students in Brazil.

The focus group interviews surprised the authors by the intensity of students' emotional responses, and the data collection and analysis were profoundly influenced by this unexpected component. Often, the encounter had a cathartic element, as if students needed to let off steam, finally having the opportunity to talk about the difficulty and emotional experiences that were not completely elaborate yet. As a consequence, students focused on the negative aspects of the experiences, despite several attempts of focusing on positive aspects of the hidden curriculum.

The authors identified three interrelated domains through which the hidden curriculum influences professional identity formation: (1) "Speeding up" – repetition without reflection ends in a lack of awareness of professional identity formation; (2) Emotional dissonance in the context of negative role modeling; (3) the conflict between personal and professional lives.

Below, we describe these domains from the students' perspective. Some interview excerpts illustrate their opinions and experiences. Appendix A shows additional representative excerpts.

3.1. Speeding up - Repetition without reflection ends in a lack of awareness of professional identity formation

Medical students use the term "speed up" to refer to the pressure the health care system and the clinical teachers put on them to work as fast as possible, seeing as many patients as possible. Medical students use the word "job" to describe their learning activities, with a definite negative connotation; making explicit the perceived contradiction between the desire of being treated as students and the reality of being treated as workers. The ultimate consequence is a meaningless practice.

F2P1F: Can I drop the bomb? (Everybody laughs and talks simultaneously) Since it is to talk, I think that you have to drop the bomb, is it not so? I hate it, that is all. I feel it is coarse, rotten; I feel angry, hurt: I was very deceived with medical school. I had great expectations; I am very frustrated. The curriculum that they prepare for us is absolutely … it is all … nothing makes sense; it is all nonsense, stupid. Everything for the logic of forming us to speed up work. They only want to deliver a new professional to the market, a physician that fills the bill, that does not make a complaint, that does not resent anything, that accepts bad working conditions. A physician that doesn't really care for the population.

F11P9M: "What rules in the corridors is that those who work the fastest are the most praised."

The participants talked about the need to speed up when doing patient consultations, not being allowed to spend the time with a patient they felt was needed.

F1P2F: "There was a time when I was in the consulting room with the patient, I don't even remember which specialty it was, and she was well controlled of the specialty's disease. She talked to me and told me that she used to live with two sisters and both had died within three months before the consultation. Then, she was now living alone, her son who used to live in the same town had moved away two weeks before, and she was feeling completely alone, she said: "I stay home the whole day, I have no one to talk to, I have nothing to do", "I have not left the house for a week, not even to go to the supermarket, because I have no interaction with anybody". Then I said: "So let us talk, now that you are here let us talk a little bit", we talked for a while and she left the consultation very happy, and I was given a terrible dressing down after that. "*You took 25 minutes for the consultation! Too much time! The patient had no complaint; you had only to write down the medication and show the patient out. How do you spend 25 minutes with such a patient?*" But I thought that the patient needed to talk, "*No, patients don't come here to talk*." It hurts because you want to help, you want to do something, and you are blocked this way. They really cut you down."

We observed that students began to work at the system's pace, not having time to reflect on their experiences or deal with their emotional responses:

F2P3F: "Our education resembles an assembly line."

F5P2M: "You don't see the use of what you're doing. I didn't feel useful. I was a lump of flesh doing manual work. I wasn't learning."

F9P8F: "We are there going through the motions on autopilot."

The imperative of speeding up resulted in a perceived tension between what must be done in patient care and the opportunities for learning.

F1P2F: … You are speeding up work; it is incompatible with your learning!.

F5P7F: "We stay here filling in medical records, seeing a lot of people at the outpatient clinic, while we could be home studying!".

In this context, productivity is a matter of numbers, in apparent contradiction with the social contract of medical schools.

F10P5F: "As to the hidden curriculum, the message is that we have to increase numbers; the person who enters there does not matter."

Speeding up resulted in a lack of reflection and awareness of professional development.

F7P6F: "It sometimes happens to me, I catch myself doing something and thinking: 'Seriously, I'm not like that, why am I doing this?'."

Students often internalize and incorporate some behaviors into their identity without the desired reflection. At the end of the program, when they have a chance to reflect on the paths they took, the contradiction between what they wished in the beginning and what really happened may lead them to a state of identity dissonance that causes suffering and embarrassment.

F7P3F: "I've already incorporated something I hadn't realized, and it was totally opposed to what I believed about who I am. Now, in the end, I'm frightened… how things so different from my nature became part of my behavior."

On the other hand, students realized that the need to speed up was also part of the social reality they were part of and will also need to deal with in the future.

F2P4M: … Do we have the obligation of speeding up the work? Theoretically, we wouldn't. But we live in a country without resources. It is a medical school. Its purpose is, yes, to teach people, but it is also to attend people. And is there the social issue and everything else? Yes, there is….

3.2. Emotional dissonance in the context of negative role modeling

The lack of reflection feeds the conflict between what one desires, or idealizes, and what one observes, or practices, ending in a state of emotional dissonance, which may culminate in affective distance and cynicism.

F11P8M: "Making fun of patients… that happens a lot. So, we find it funny and make fun of them, too. […] but I think that, if you are a good person, maybe what you need is to be reminded that you are a good person."

F4P3F: "Eventually, what I'd like to do is different from what I end up doing."

F13P1M: "Then, I think that, until the end of my undergraduate studies, my stronger influences were related to the physician I didn't want to be."

Students testify clinical teachers dehumanizing patients, often referring to them by their diseases' names. This detached attitude reveals a clear contradiction between what is taught and what is practiced, which worsens the state of dissonance. Students end up experiencing feelings of disappointment, anger, frustration, uneasiness, and distress.

F3P3M: "I remember a professor saying, 'Gosh, that patient there at the front is like this book, all compatible.' [.] Today, I think: 'Well, if I were that patient there and looked at a book of medicine, full of diseases, full of odd things…'."

F3P2F: "Some teachers know a lot; technically, they are very good physicians, but they treat patients in a way that makes you ashamed. I feel like apologizing to the patient when the teacher goes away."

F7P3F: "I remain with a sensation that I owe something; that patient needed that, I could have given it to her, but I didn't."

Students feel vulnerable when under the influence of these negative role models, which may culminate with the incorporation, not always conscious, of undesired attitudes and behaviors. Without conscious reflection, students reproduce practices that may end in a sense of shame, frustration, and guilt. Eventually, students do not recognize themselves in their own attitudes.

F7P2F: "When I can't assist a patient the way I think I should, I have a sensation of not having taken the opportunity… I didn't help the person, neither of us is well."

F2P3M: "Sometimes, you stop and ask: "What am I doing? No! I'm thinking exactly as that [professor] I hated". Then, I stop, reflect, and start thinking my own way again. But you have to watch yourself."

F8P3M: "I think we are extremely vulnerable to these influences. We often spend a whole day with a teacher who keeps complaining about patients. It starts to cause anguish, it's horrible."

Moreover, the impersonal and even distant relationship with teachers was considered as a negative model that is reproduced in students' relationships with patients.

F9P8F: "I guess we are very distant from teachers. We don't have anybody to report to, anybody with whom to discuss a difficult case that is bothering us emotionally. In medicine, teachers who see us as people, and not only as numbers, are rare. I think that this distant relationship with a patient is something reproduced because I don't feel close to most of the faculty. I don't even remember the names of people whose lectures I attended. When a teacher breaks this, when he gets closer, I think it's very good."

F2P3M: "We see inhumane attitudes with students, and they want to teach us to be human with our patients."

3.3. The conflict between personal and professional life

Clinical teachers and physicians presented the sacrifices related to the medical practice as a burden, and not as a consequence of a relationship of sense and meaning with the profession. Medical practice was understood only as a duty, and not as a possible source of joy and fulfillment. In this context, the relationship with work becomes primarily commercial, and the concept of medicine as a vocation turns out to be fragile. Students concluded that professional fulfillment means financial gain and that choosing a future specialty connects mainly to its market value, therefore devaluing generalist specialties.

F10P2F: "To me, they seemed mutually exclusive things: she would either raise her children or be a good professional. Both at the same time seemed impossible."

F10P5F: "Once a teacher said: 'I'll give you a piece of advice. Choose a specialty that produces success, choose your future practice thinking about the amount of money you'll get'. And I understand he did it with the best of intentions."

F10P2F: "One of our colleagues, one of the best in our class, said he wants to be a family physician. Everyone told him it's a waste because he's one of the best students in the class."

F10P5F: "A teacher said: 'It's good when we like what we do, but it's good to be able to travel on vacation, to have a good car, success, and money'. He even made some calculation and gave us numbers."

4. Discussion and conclusion

Although there is an ongoing debate on the usefulness of the idea of hidden curriculum to further develop the medical education experience, our work reaffirms its utility.[12,20] In our context, the utilization of the socialization elements as proposed by Cruess et al. associated with the concept of hidden curriculum as proposed by Hafferty and Franks offered a powerful tool to explore and understand how traumatic clinical experiences associated with a lack of time and support to reflect ended up disturbing the professional identity development of medical students .[6,31] To our knowledge,[12] it is the first article to investigate this issue in a South America country, a region with more than 500 million inhabitants that exports doctors to countries all over the world. Our context is very different from Europe and North America because our students are actively involved in delivering healthcare, instead of being predominantly in training, and work under the pressure of the system, a system that systematically fails in providing equalitarian care. Moreover, our students are allowed to work directly with patients without supervision or residency training just after their graduation. So, our hidden curriculum is somehow different; we have medical students facing challenges that most of the students in wealthy countries do not know about. Analyzing our data, we realized how the unstructured health system in our context brings specific challenges to the learning interactions in the workplace that sum up with a perceived negative role modelling to push students away from the values of the good medical practice.

The central concept derived from our data is that students are under the influence of a "speeding up" culture. The first consequence is that there is a lack of time, support and willingness to provide opportunities to reflect on the clinical and academic experiences. Why does it matter? The introduction of students to the clinical environment is challenging. Students have to make their first clinical decisions while dealing, also for the first time, with the reality of the suffering imposed by diseases to their patients.[32,33] This is an emotional moment;[34,35] the doctor-patient relationship demands commitment, resilience, competency, empathy, courage, and sacrifice.[36] Medical students need guidance not only to learn the technical aspects of the medical profession but also to cope with the emotions evoked by the clinical practice.[35,37] The "speeding up" culture deprived students of the time and support to reflect on how to become the physicians they idealized or, if the idealized is not possible or even real, how to get as close as possible. The undesired result is the internalization and repetition of attitudes and behaviors that are incongruent with the moral values of students. When students finally realize this process, they experience a psychological rupture accompanied by feelings of shame and guilt.

Our data also show that the lack of reflection acts in concert with the negative role modeling to nurture a state of emotional dissonance. Students' experiences in the hidden curriculum, particularly those modeled by teachers in their relationships with both students and patients, led to a sense of emotional dissonance and a strong dominance of negative feelings. Students testified teachers behaving totally different from what was taught as ethical or desirable and did not feel welcome to discuss their emotional struggles or even felt repelled by teachers' attitudes. Moreover, students spontaneously concluded that the relationship between teachers and students represents a model for the relationships between medical students and patients, which was also described by Teal et al.[38] In fact, both relationships have in themselves some hierarchical superiority – in the roles of teacher and physician – and some vulnerability – in the roles of student and patient. Therefore, the negative role modeling is on not only when teachers are interacting with patients but also when interacting with students. Without proper reflection, the lack of empathy and respect often experienced in the relationship with teachers can be reproduced by students in their relationships with patients.

The dissonance has a direct impact in students because it may trigger defense mechanisms such as cynicism and culminate in depersonalization, thus enhancing the probability of adverse events as, for example, burnout syndrome, deteriorated perception of quality of life, empathy decline, depressive disorder, and suicidal ideation.[39–42] As a result, students may conclude, with the support of some role models, that the

only way to protect themselves from the profession they choose is to trace a clear line separating their personal and professional lives.

What is the importance of these findings?

Although the several elements of the hidden curriculum were already identified and explored, our study shows how these elements work together along the socialization process towards an outcome that is often undesired. Medical educators, in different parts of the world, struggle with the feeling that medical education is failing in preparing ethical, reliable, and accountable doctors.[31,43,44] The local understanding of the interactions among hidden curriculum, socialization and professional identity formation seems to be the first step to design effective pedagogical interventions. Theoretical and practical activities in a medical program should be based on coherence. First, coherence between what teachers teach and what teachers do, especially when in contact with patients; second, coherence between how teachers treat students and how students should treat patients. Such coherence can help students deal with the dissonance they often experience.

We believe that it is time to address the hidden curriculum more systematically and that each medical institution should reflect on the impact of its culture and rituals on their professionals, apprentices, and on their learning interactions. It is time to raise the students' awareness and to develop the understanding of the complex relationships that scaffold the formation of their professional identity. Particularly, we believe that teachers and students should discuss openly, in a non-hierachical process, the complexity of the emotional responses related to the introduction to patient care.[45] Both medical students and physicians may benefit from this process; the former will be able to develop more functional coping mechanisms and the latter will have the opportunity to reflect on, and eventually change, behaviors that may not be related to the patients' best interests.

4.1. Limitations

Our focus groups were cathartic moments. On one side, it created the desired safety to ground a meaningful conversation, but on the other hand, it is possible that the feeling of relief had driven students to focus on negative aspects of the hidden curriculum. Our health system is public, and our medical school is the only hospital for tertiary and quaternary procedures in a region with seven million inhabitants. Although this reality is shared by many schools in underdeveloped countries, it is entirely different from the reality of medical schools in Europe and North America. Finally, our students leave with the perspective of starting independent practice after finishing the undergraduate course, which can represent an extra burden and a source of psychological and professional pressure.

The utilization of the Cruess conceptual model of socialization enlightened data collection and interpretation but possibly brought also undesired or unplanned shadows. As the authors were actively searching for the dimensions already present in the model, they took the risk of missing the elements that were not anticipated by the framework.

Our data reflects the perception of students and offers
a partial view of the reality. In the future, we need to combine the views of students and supervisors to have a more comprehensive understanding of the social interactions happening in the clinical environment. Comparing impressions of students and supervisors would be a good strategy to start the conversation necessary to find the harmony we need on mentoring relationships.

The data collection lasted 22 months. It was impossible to prevent students to familiarize with the concepts we were investigating. In addition, the hidden curriculum and professional identity development are hot themes that generate discussion, mobilizing students and teachers. We believe that our data suffered the influence of this dialogue both negatively, by framing some results, but also positively, by deepening other findings. We also have the subjective impression that students used the focus groups as a channel to send a message to teachers.

Disclosure

Ethical approval

The research ethics committee of the School of Medical Sciences of Unicamp approved the study (CAAE: 43727315.4.0000.5404).

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Other disclosure

The authors report no conflict of interests.

Appendix A

Representative excerpts from reports of medical students in focus groups

Major domains	Representative reports
"Speeding up"	"We enter this culture and end up not being able to leave it after a certain moment, unless some influence comes to remember us of what we already knew." F2P4M "Things [curriculum activities] don't make sense." F5P4M "If you don't have someone to stop you and tell 'Think about that!', you become another person and don't realize it." F7P1F
Emotional dissonance in the context of negative role modeling	"I think it ends up trivializing the patient's condition. They [teachers] are used to the rat race, and want to see a lot of people, and I think they lose a bit of this sensitivity… of being able to listen to the patient. They don't take the time to listen to the patient." F13P4M "We arrive at the clerkship and, in most places, we work in multi-professional teams. Then, I think: 'Why don't we get involved with these people before if our jobs are interdependent? This is somewhat contradictory'." F13P2M "They (teachers) keep saying that we should do a holistic consultation… so, there is a great inconsistency between the teachers who organized our curricula and the teachers who supervise us, do you understand? There is a great inconsistency between what they (teachers who organized the curricula) want us to do and what the supervisors who are with us really do." F1P3F "The university is huge… It's gigantic. Thirty-seven programs, and we know just med school people. With people from Nursing, Pharmacy, we have no contact at all, even seeing them every day." F13P4M "We go through each clerkship quickly, and our contact with teachers doesn't allow us to get closer." F13P1M "I guess some physicians call much more attention. The negative example creates discomfort, so I think it's easier to remember it." F8P1M "I had an idealized view of the medical profession. I always wanted to be the best no matter which profession I chose to become. I have always studied wishing to become the best. Then, I started the clerkships and I realized how frustrated residents and physicians are. I think that the medical school pushes them to do extra shifts, make a lot of money. The medical school convince them that they have to give all the nocturnal shifts of the world and the result is that they end up frustrated. What makes me sad is that some physicians in leading positions, well recognized inside the university, have the same attitude and influence students towards this behavior. The cycle never ends." F5P5F "If, in the outpatient clinic, someone comes to me and says 'This is how we work here', it's difficult to confront them and answer 'I won't do it this way'." F13P1M
Conflict between personal and professional life	"Something very strong in the hidden and in the non- hidden curriculum in medicine is that success is money. This is something that was important to me." F10P5F "The idea is very strong that you need to earn money and have a leading position." F10P6F "Coming home and studying Nephrology can even be cool. But, then, you see burned-out residents, bad-tempered teachers, crowded outpatient clinics… it's discouraging." F10P3F

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